

MOVING TOWARD SUSTAINABILITY
ENVIRONMENTAL MANAGEMENT PROGRAM

2000
2001



PROGRESS REPORT



City of Seattle
Office of Sustainability and Environment

The Path to Sustainability

IN SEATTLE

Mayor and City Council create Office of Sustainability and Environment, to further promote the principles and practices of sustainability within city government and in the community and region

2000

City Council endorses the Environmental Management Program, establishing specific environmental policies, goals and targets

1999

Seattle Public Utilities publishes "On the Path to Sustainability," a solid waste management plan adopting zero waste as a guiding principle

1998

City Council adopts "Comprehensive Plan for Growth Management," *Toward a Sustainable Seattle*, establishing four core values: economic opportunity, environmental stewardship, community, and social equity

1994

Non-profit *Sustainable Seattle* publishes, "Indicators of Sustainable Community"

1993

City Council adopts 1st City-wide Environmental Action Agenda, establishing environmental priorities and embracing sustainability as one of 11 guiding principles for City environmental management

1992

City Departments initiate a number of leading environmental management programs, including curbside recycling and energy and water conservation

Before 1992

1987

UN World Commission on Environment and Development releases, *Our Common Future*, defining sustainable development as "development that meets the needs of the present without endangering the ability of future generations to meet their own needs"

WORLDWIDE

2002

UN World Commission on Sustainable Development (aka Rio+10) scheduled for Johannesburg, South Africa

1999

US President's Council on Sustainable Development publishes "Towards a Sustainable America"

European Union adopts "European Union Sustainable Development Strategy," outlining policies for economically, socially, & ecologically sustainable development.

1992

UN Conference on Environment and Development (aka Earth Summit) develops a global sustainable development action plan, *Agenda 21*

1989

Coalition of Environmentally Responsible Economies (CERES) forms and creates CERES Principles, a 10-point code of corporate environmental conduct

Dear Elected Officials, Department Directors, Advisors, and Friends:

The release of this report couldn't be timelier. Endangered Species Act listings for Chinook salmon and Bull Trout. An energy shortage that rattled the entire West Coast. The second-worst drought in the state's history. Recent events such as these remind us that the natural systems on which we depend are limited in their ability to serve our needs and absorb our wastes. At the same time, the sharp slowdown in the national and regional economy underscores the need to use human and natural capital more efficiently. And the awful emergence of terrorism here in the U.S. has many of us reflecting on the roots of the resentment toward our country and way-of-life.

In short, this is a fitting time to reaffirm our commitment — and redouble our efforts — to create a healthy, vibrant, safe, and sustainable Seattle and Puget Sound region.

This report describes some of the most recent steps the City has taken to put sustainability into practice, both within City government and in the community. We've reduced our use of pesticides by nearly 50 percent. New City landmarks such as the Justice Center, Civic Center, and Central Library will be healthy, resource-efficient buildings that will save the City hundreds of thousands of dollars in energy, water, and waste disposal costs. We implemented energy and water efficiency measures in City buildings that will save \$230,000 a year in utility bills. And we initiated programs to cut toxic air pollution from the City's diesel vehicles by 90 percent, and to reduce climate-warming greenhouse gas emissions from City operations by seven to 40 percent.

The report also highlights areas where more attention is needed. For example, while about 90 percent of the paper the City buys now has recycled content, our overall use of paper (and generation of waste) is rising.

Last spring, in anticipation of what became the second-driest year on record, Seattle Public Utilities set a voluntary water conservation goal of 10 percent. The region responded by using 15 percent less water during the summer. Such events foreshadow the tough challenges we will continue to face. But, at the same time, they demonstrate our willingness — and our capacity — to meet those challenges.

I want to thank all of those who have helped to produce this report and the accomplishments it describes. It's *your* commitment and creativity that keeps Seattle moving toward sustainability.



Steven Nicholas
Director, Office of Sustainability & Environment

This is a fitting time to reaffirm our commitment — and redouble our efforts — to create a healthy, vibrant, safe, and sustainable Seattle and Puget Sound region.

Sustaining Seattle: 2000/2001 at a Glance

Reducing Resource Consumption

Commitment to meet national sustainable building standard for 12 new City buildings

Energy use in 23 City facilities down by 4%; Key Tower energy use up 17%

No reductions in total fuel use by City fleet

Conversion of green traffic signals to LEDs will save \$188,000 annually

Other energy/water efficiency measures in City facilities will save \$56,350 annually

Use of recycled paper increasing, but overall paper consumption also increasing

Reducing Pollution at the Source

Overall pesticide use down by 46%

Most-hazardous pesticides phased out

No reductions in hazardous waste generation

Commitment to reduce diesel emissions by City fleet by 90% via conversion to ultra-low sulfur diesel in 2001 and emission control retrofits by 2004

Commitment to reduce City greenhouse gas emissions by 7 – 40% from 1990 levels

Complying with Regulations

Target of zero regulatory violations and zero releases to the environment not met

Three regulatory violations, 69 self-reported non-compliance incidents, and 11 releases to the environment

18 of 33 complex City facilities audited; identified corrective actions on schedule

Moving Toward Sustainability

Four City departments developing Environmental Management Systems

Two new sustainability websites launched

Three leading sustainability thinkers speak with City audiences; City-wide sustainability network initiated

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It is curious to note that while we have difficulty envisioning a sustainable world, we have no difficulty detailing what is unsustainable in our societies. We can rapidly create a laundry list of problems — inefficient use of energy, increased pollution, abuses of human rights, consumerism, etc. However, we shouldn't chide ourselves because we do not have a clear definition of sustainability; many truly great concepts of the human world, such as democracy and justice, are hard to define and have multiple expressions in cultures around the world.

Environmental Education for Sustainability: Responding to the Global Challenge

Introduction

The Mayor and City Council created the Office of Sustainability and the Environment (OSE) in late 2000 to provide a focal point for environmental and sustainability principles, practices, and reporting within City government and for the wider Seattle community. This report documents the City of Seattle's most recent efforts to reduce the environmental impacts of its own operations and services, such as energy consumption, use of pesticides, and compliance with environmental



regulations. It highlights the sustainable activities that OSE has pursued with its many partners. OSE plans to make this report the first step toward an expanded annual sustainability report card that examines the City's contributions to improving the social, economic, *and* environmental well-being of our city and region.

This report is for City decision-makers and staff, and all those interested in creating a more sustainable Seattle. It chronicles the City's key internal environmental efforts, shows how the City measures its performance under the **Environmental Management Program (EMP)**, and reports on our successes, areas for improvement, and the challenges ahead. We hope you will use this report to inform yourself about what City government is doing, with the help of many hands, to create a more sustainable Seattle.

About OSE

The Office of Sustainability and Environment (OSE) helps elected officials, City departments and other partners such as governments, institutions, businesses, households and citizens better understand and apply the principles and practices of sustainability to their work. Specifically, OSE works to:

- Establish City-wide environmental and sustainability policies, goals, and targets;
- Coordinate implementation of the City's Environmental Management Program (EMP) to reduce the City's own environmental footprint;
- Better integrate long-term economic, environmental, and social costs and benefits into City plans and actions;
- Provide ideas, information, training and technical assistance to help City departments and others to further sustainability in their own operations and services;
- Develop and implement pilot projects that demonstrate sustainable practices;
- Facilitate interdepartmental problem-solving, planning, decision-making, and communications;
- Provide a focal point for internal and external communication about City-wide initiatives to promote sustainability; and
- Track and report on City-wide progress toward sustainability.

The City of Seattle embraces the concept of sustainability. We are committed to trying to meet our current needs without compromising the ability of future generations to meet their needs.

*City of Seattle Environmental Action
Agenda, October 1992*

2001–2002 Progress Toward Sustainability

Reducing Our Impacts

In 2000/2001 OSE primarily focused on increasing the environmental sustainability of City operations — operations that reach across 10,000 employees, 23 departments, 700 facilities, and thousands of acres of land. These operations consume resources, produce waste and pollution, and are subject to numerous environmental regulations. Reducing our own ecological footprint increases our efficiency, saves money, reduces health and environmental risks to both City employees and the community, reduces liability, and sets an example for others to follow.

The City is implementing an environmental management system, the **Environmental Management Program (EMP)** to tackle this challenge. The EMP provides a management framework to reduce our impacts by achieving objectives in four areas:

- Reducing resource consumption
- Preventing pollution
- Complying with regulations
- Moving toward sustainability

A key part of our job at OSE is to monitor how well the City is meeting each objective. Each one carries with it a set of measurable performance indicators and targets. As new environmental efforts are initiated, indicators will be added, targets developed, and results tracked and reported. While numerous projects, plans, and programs to reduce the City's environmental impacts are in place across City government, this section of the report describes those efforts undertaken as part of the EMP.

Seattle's commitment to sustainability is supported by this plan...The plans four core values — community, environmental stewardship, economic opportunity and security, and social equity — are key components of sustainability. Separately, they are necessary but insufficient; taken together they become a solid foundation upon which to build a sustainable future for ourselves and the generations to follow.

Seattle Comprehensive Plan, July 25, 1994



The City of Seattle's guiding environmental policy is to conduct its operations in an environmentally responsible and sustainable manner; to comply with environmental laws and regulations, to reduce its use of resources and generation of waste; and to lead by example.

*City of Seattle Environmental Management Program,
February 1999*

Reducing Resource Consumption

Creating More Sustainable Buildings

Buildings have a significant impact on the environment, accounting for one-sixth of the world's freshwater withdrawals, one-quarter of its wood harvest, and two-fifths of its material and energy flows. Sustainable building integrates building materials and methods that promote environmental quality, economic vitality, and social benefit through the design, construction and operation of the built environment.

In addition to the 700 buildings and facilities that it currently owns and operates, the City will construct about 40 new facilities in the next several years. By applying state-of-the-art sustainable building practices, the City will significantly reduce its own construction and remodeling impacts. And, by its leadership, it can promote more sustainable building practices in the community.

The City's interdepartmental Green Building Team, lead by OSE, spearheaded the City's adoption of one of the most progressive sustainable building programs in the country. As a result, 12 major projects – including the new Justice Center, City Hall, McCaw Performance Hall and Central Library – will achieve the silver standard of the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED™) program.



By choosing to build sustainably, the City will realize substantial cost savings for years to come. Although each of the projects is currently under or nearing construction and actual savings data are not yet available, it is projected that quantifiable benefits will include:

- **A one-time savings of thousands of dollars as construction debris is recycled instead of put in landfills.**
- **Energy savings that will exceed the energy code by approximately 20 percent, saving the City hundreds of thousands of dollars annually in energy costs.**
- **A reduced impact on the stormwater system through such innovations as green roofs and designs that divert stormwater for irrigating landscapes.**
- **Sewer and water cost savings due to maximizing interior water use efficiency.**
- **Cost savings due to improved indoor working environments, increased worker productivity and reduced sick leave and absenteeism.**

A number of other City initiatives are helping accelerate sustainable building, both within the City and in the private sector, including:

- A sustainable building web site on the City's PAN. This site links various City programs, creating a "virtual" office of sustainable building.
- Seattle Supplements to LEED™, a web-based tool which cross-references LEED™ with local codes, incentive programs, and technical assistance.
- A Sustainable Resource Guide, connecting citizens to private, non-profit, and public sector resources, all organized around the LEED™ categories.
- The LEED™ Pilot Incentive Program, which provides an incentive of up to \$20,000 to help design private sector LEED™ projects.
- A Sustainable Building Advisor training program, a continuing education course offered through Seattle Central Community College, jointly developed and sponsored by the College and the City.

Increasing Energy Efficiency

Increased energy efficiency reduces City Light's need to build new energy supplies, and saves money for City departments. Reliably assessing if energy use has declined across over 700 diverse and changing facilities is both expensive and inexact. Therefore, we are tracking a sample of 24 representative buildings such as police precincts, shops, fire stations, libraries, office buildings, and community centers. Each department selected the buildings that they felt were most representative.

This chart shows electrical use for 2000 in each of the 24 buildings, and compares it to the average annual total for the previous five years. Overall, the results show that energy use increased in these buildings by 10 percent. However, the results are greatly skewed by Key Tower's energy use (in 2000, 25 percent of Key Tower was occupied by City offices), which is more than ten times greater than the energy use of any other building.

Change in Annual Electric Use for Representative City Buildings – 2000

		Average KWH/Year 1995-99	Total KWH 2000	KWH Change	Change
increased use	Fire Station 20 (Interbay)	19,659	25,389	5,730	29%
	University Library	40,704	52,080	11,376	28%
	Key Tower**	14,052,200	16,467,200	2,415,000	17%
	West Seattle Library	64,367	72,954	8,587	13%
	Water Operations Center	812,900	906,040	93,140	11%
	Miller CC**	144,350	158,640	14,290	10%
	Lower Woodland Field	41,274	44,318	3,044	7%
	Rainier Community Center	224,337	232,370	8,033	4%
	Bitter Lake Community Center*	122,720	125,160	2,440	2%
reduced use, no program participation	Magnolia Library	57,184	57,920	736	1%
	Fire Station 10 (Downtown)	372,840	371,340	-1,500	0%
	Ballard Pool	265,702	263,680	-2,022	-1%
	Fire Station 18 (Ballard)	93,472	92,720	-752	-1%
	Fire Station 25 (Capitol Hill)	94,984	93,630	-1,354	-1%
	Municipal Building	729,818	721,290	-8,528	-1%
	Hiawatha CC	130,828	124,460	-6,368	-5%
reduced use, conservation program participation	Helene Madison Pool	294,120	284,480	-9,640	-3%
	Arctic Building	700,199	692,688	-7,511	-1%
	South Precinct	337,996	325,180	-12,816	-4%
	Parks Dexter Admin	133,040	125,360	-7,680	-6%
	Alaska Building	1,552,010	1,390,140	-161,870	-10%
	North Precinct	230,296	197,430	-32,866	-14%
	Charles Street – Engineering	135,984	110,040	-25,944	-19%
	Charles Street – Fleets	507,434	385,860	-121,574	-24%
	TOTALS	21,158,418	23,320,369	2,161,951	10%

Without Key Tower, energy use, on average, fell by 4 percent in 2000. Notably, the four buildings with the greatest decrease in energy use had retrofitted their buildings with energy efficient lighting during the previous year.

The 2000/2001 Energy Crunch

In response to last winter's energy crisis, OSE lead an initiative to cut municipal energy use by 10 percent. Our role was to:

- Communicate with City employees and major energy-using City facilities about the crisis.
- Help them achieve immediate savings, including installing compact fluorescent bulbs in over 200 desk lamps and providing a list of practical energy-saving actions to take.
- Conduct energy audits and identify cost-effective long-term savings in 20 City-owned facilities.
- Through the Municipal Conservation Fund, help fund six energy and water efficiency projects in City facilities, including the Lake City

Neighborhood Service Center, the Japanese Garden, and the Alaska Building. The six projects will save 300,000 kWh, 42,462 therms, and nearly six million gallons of water per year for a total annual savings of \$56,350 in utility bills.

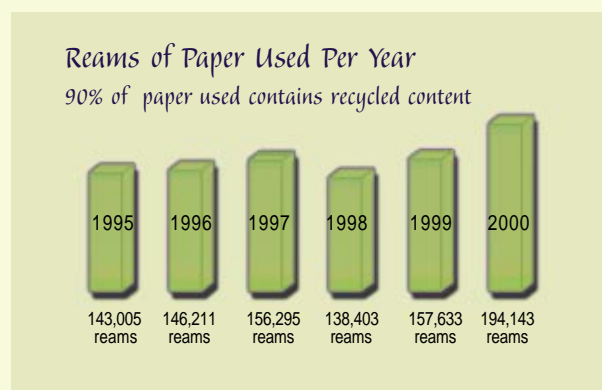
- Help identify and channel funding for the largest single source of energy savings in City operation: converting green traffic lights to more efficient LEDs. This project will save 3,425 MWh and \$188,000 in annual energy bills.
- Monitor and report on whether City buildings are meeting the 10 percent goal. Data for the first half of 2001 indicate that most of the City facilities are on target, based on our tracking of the representative buildings.

Environmentally Preferable Purchasing

The City spends millions of dollars a year on goods and services, and this purchasing power provides an excellent opportunity to accelerate the development and use of more sustainably produced commodities.

The City is committed to buying products that are healthier both for its employees and for the environment, including products that are less toxic, more durable, are more easily recycled and contain more recycled material. In 2001, OSE joined the efforts of Seattle Public Utilities and the Finance Department's Purchasing Division, which for years have been working through the Copernicus Project to develop environmental criteria, guidelines, specifications, and contracts for a range of products and services, including:

- desktop computers
- janitorial products
- landscaping materials and top soils
- office paper
- office chairs and work stations
- printing practices
- paint
- refurbished transformers
- refurbished roadway signs
- sealed lead-acid batteries



In addition, the City's Buy-Recycled Program includes targets for purchase of recycled paper, motor oil and anti-freeze. Progress on these targets has been mixed. Although at least 90 percent of paper purchased by the City contains 30 percent recycled content, the total number of reams used has climbed significantly. Also, the use of re-refined motor oil and recycled antifreeze has declined as a percent of total; this is due in part to the loss of a vendor for these products.



Based on available information, it appears that the dollar value of recycled products and reusable products has declined in recent years; it is, however, unclear if this is based on actual purchasing trends or the limits of our data management system. Monitoring our performance in this area is problematic because the City's financial system does not track commodity purchases by specific item. This makes it difficult to understand and evaluate environmental purchasing trends throughout the City system.

Another complication in the City's efforts to increase environmentally preferable purchasing practices is the trend toward decentralizing purchasing authority and capabilities. This speaks to a growing need to increase awareness about environmentally preferable purchasing throughout the City, and to provide tools, such as standards and guidelines, directly to employees who are making purchasing decisions.

I would argue that practices that destroy ecosystems always destroy jobs.

Bruce Babbitt

Reducing Pollution at the Source

Reducing Pesticide Use

Over the past four decades, production and use of pesticides have increased steadily throughout the world. Each year at least two million metric tons of pesticide products are used to control pests, weeds, and diseases. Recent studies documenting the presence of pesticides in area streams and the effects of pesticides on salmon point to the need for public agencies to serve as models of environmental stewardship in landscape management.

The City does not routinely use pesticides on its more than 12,000 acres of developed land, and crews have significantly reduced the amount and toxicity of the products used over the last 20 years. Building on this record of landscape stewardship, the City established two aggressive pesticide use reduction targets:

- Eliminate use of the most potentially hazardous pesticides by June 2000.
- Reduce overall pesticide use by 30 percent by December 2002.

Departmental Pesticide Use (lbs)
Active Ingredient

	1995-1999	2000	% Change
SCL	203.89	40.62	-80%
Library	2.32	0.00	-100%
Parks	804.54	385.37	-52%
SPU	2.12	2.29	8%
SEATRAN	141.01	185.66	32%
Seattle Center	13.75	17.79	29%
Totals	1,167.63	631.74	-46%

Partnering with City departments that manage grounds, OSE lead the City-wide effort to reduce pesticide use by providing program development, coordination, data

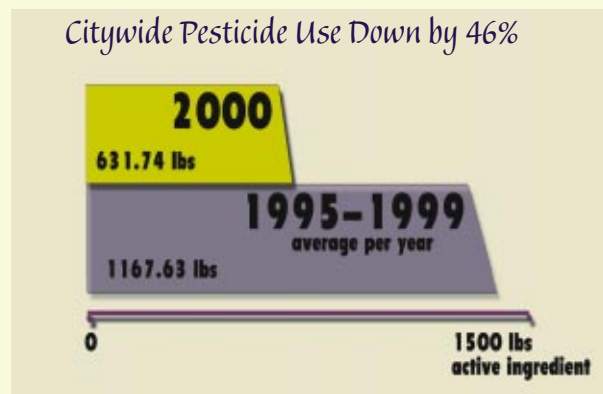


management, and communication. The City met the first target and exceeded the second target by the end of 2000 - two years ahead of schedule. The chart to the left shows how much each department reduced its pesticide use compared to the 1995–1999 baseline.

Employees attributed the impressive reductions achieved at SCL, Library, and Parks to the landscape crews' commitment to reducing pesticide use, a shift to more manual labor, increased emphasis on plant health, alternative control techniques, low-maintenance landscape designs, weed barriers, and increased pest tolerance, cultural practices, and pest prevention methods.

In some areas more work needs to be done. For example: reducing pesticide use on golf courses remains a tremendous challenge since golf greens receive extremely heavy traffic and are maintained to rigorous standards to maintain playability. However, Jackson Golf Course reduced pesticide use by 43 percent in 2000 compared to the 1996–1999 baseline. This can be attributed to several factors including pesticide spraying in response to evidence of disease rather than in anticipation of diseases; improved greens health through use of high quality nutrients; soil and tissue testing to better plan nutrient application and timing; and expanded cultural practices such as aerating and top dressing.

SEATRAN's increase in pesticide use is due in part to the continuing increase in acreage of formally maintained landscapes without an increase in maintenance labor, coupled with the use of less potent pesticide formulations (requiring more frequent application) to effectively control the spread of noxious weeds in right-of-way areas.



Municipal leadership is absolutely critical (to sustainable development). Cities are big enough to make a difference, but small enough to make things happen.
 Author Bill McKibben, speaking to City employees



Building on the overall success of pesticide reductions, in 2001 the City launched the Pesticide-Free Parks program at 14 parks throughout the City. This program provides neighborhoods the opportunity to enjoy parks maintained without the use of pesticides and will help the City to better understand how to care for landscapes with less reliance on pesticides.

The hard work of City grounds staff was recognized with two national awards. The City was named a Habitat Hero by the National and Seattle Audubon Societies and won second place in the National Pollution Prevention Roundtable's Most Valuable Pollution Prevention Program competition.

The challenge now is to sustain these reductions. Some of the reductions were attained without implementing alternative controls which may create more pest problems later. Additionally, the shift to increased manual alternatives and a focus on plant health is much more labor intensive. Thus, some areas may not have received adequate attention and may require remedial action in the future to restore pest damaged landscapes and control weeds in areas that were not adequately maintained.

Reducing Air Pollution

According to EPA statistics, the Seattle/King County region has among the highest levels of air toxics in the country, containing levels of toxic materials that potentially result in cancer risks 700 times greater than the goal set in the Federal Clean Air Act. EPA data indicates that nearly 80 percent of these airborne toxic materials can be attributed to diesel emissions.

To tackle this problem, the City joined the Puget Sound Clean Air Agency's Diesel Solutions Program. In July 2001, Seattle was among the first to convert its entire diesel fleet to ultra low-sulfur diesel fuel. By the end of 2004, the City plans to retrofit all of its high use diesel equipment with advanced emissions control devices which will reduce toxic emissions by more than 90 percent.



Fleet fuel use is also associated with other City environmental priorities. Increased consumption of fossil fuels is not infinitely sustainable nor are the extraction and refinement processes without significant environmental impacts. By reducing fleet fuel use and/or increasing the use of cleaner fuels, the City not only contributes to cleaner air but also helps build public awareness of the value of increased fuel efficiency and alternative fuels.

Working together with the City's Fleets and Facilities Department, SPU, SCL, Seattle Center, and Parks, OSE developed the Green Fleet Program to reduce air pollution and greenhouse gas emissions from the City's fleet of 4,200 cars and trucks. More than 200 of the City's most frequently used vehicles use alternative fuels – electric, hybrid, CNG or biodiesel – and the plan is to continually increase that number.

The primary strategy for reducing fleet fuel use is to increase the average fuel efficiency of the fleet by purchasing more fuel efficient vehicles and encouraging employees to use alternatives such as teleconferencing and carpooling to meetings. Fleet fuel use for the past three years is flat, although fleet users have increased by about six percent, suggesting that on a per employee basis we are achieving increased efficiency. In early 2002, we will submit a plan to City policy makers with strategies and targets to further reduce the City's fleet fuel use.

There are no answers yet. But what we do know is that no one has a clear definition, roadmap or formula for sustainability. While we continue to wrestle with the meaning of sustainability, whether it is a destination or a journey that never really ends, we do feel we are on the correct path. Turning back is not an option.

*BC Hydro Triple Bottom Line
Report 2000*

Decreasing Greenhouse Gas Emissions

Global warming will irreparably damage our environmental, economic, and social systems. Scientists project that, due to rising temperatures, the Pacific Northwest can expect higher temperatures, wetter winters, drier summers, reduced river flows, increased coastal flooding and erosion, and decreased forest health and productivity. Snowpack – the region's natural storage system for water supply and hydroelectricity - is likely to decline by half within our children's lifetimes.

In 2001, the City committed to the long-range goal of stabilizing atmospheric concentrations of greenhouse gases. Toward that end, the City Council adopted the "Kyoto Resolution" to:

- Establish a target to reduce greenhouse gas emissions (between seven and 40 percent);
- Develop a City-wide Climate Protection Plan to achieve the reductions.

OSE is working with various City departments to plan greenhouse gas emission reduction activities. As a first step in developing this strategy, OSE is cataloguing greenhouse gas emissions from City operations, facilities, and services.

By committing to a greenhouse gas reduction goal that is one of the most ambitious in North America, the City of Seattle takes its place among the most progressive cities in the world fighting global warming.

*Press Statement,
International Council on
Local Environmental
Initiatives*

Sustaining Our Urban Forest

Trees provide enormous environmental benefits. One acre of trees removes over ten tons of dust and gases from the atmosphere each year. Trees help prevent soil erosion by slowing and filtering rainwater run off, thus ensuring cleaner lakes and streams. Trees attract and provide habitat for wildlife, contribute to a community's well being and give a neighborhood a sense of home. Trees also increase residential and business property values.



There is much concern from both outside and inside of City government over the loss of canopy cover and the decline of the City's trees. In response, OSE, working with the interdepartmental Urban Forest Coalition began a strategic planning process to improve management of our urban forest. In 2001, we completed the first step of this process: *A Strategic Plan for Seattle's Urban Forest*. The plan assesses how sustainable Seattle's urban forest is when measured against several national criteria, such as canopy cover, species mix, public involvement, and resource allocation.

One key conclusion is that Seattle lacks a comprehensive management strategy that guides budget decisions, priority setting, and service delivery. Additionally, invasive species such as ivy and blackberries are threatening the health of the City's urban natural areas, and funding and staffing levels may not be adequate to manage this valuable resource. The next step in the strategic planning process is to prioritize the Plan's recommendations and take actions.

Reducing Hazardous Waste

Hazardous waste is generated during the course of many City operations such as road maintenance, cleaning, transformer repair, painting, vehicle maintenance and clean up of contaminated property. The City categorizes hazardous waste as either operational or non-operational. Operational waste is generated by routine tasks such as fleet maintenance, shop operations, and equipment repair. We only set a downward target for operational waste since the City has little control over non-operational waste that is generated by sources such as contaminated site cleanup or hazardous wastes illegally dumped on City property. The chart below shows both the operational and non-operational waste that departments have generated over the past three years.

The substantial decrease at SCL was in part due to a regulatory change which allowed certain wastes, including batteries, to be disposed of as universal waste instead of hazardous waste. Additionally, the 2000 number is distorted due to the cycle for disposing of spent sandblast grit. The grit is reused multiple times before being disposed. Spent grit was disposed in 1999 and again in 2001, so it is anticipated that the 2001 number will reveal an increase in waste generation due to this cycle.

The City did not meet its goal to reduce operational hazardous waste generation. Departments, however, continue to pursue pollution prevention alternatives and are evaluating their purchasing, use, and storage practices to reduce the disposal of unused, overstocked materials.

Hazardous Waste in Pounds						
Department	Operational			Non Operational		
	1998	1999	2000	1998	1999	2000
Fleets & Facilities	12,944	8,098	10,362	0	0	10,013
Parks	1,440	1,800	5,220	335,942	295,397	49,623
SCL	17,119	26,480	15,085	32	163,296	16,945
SEATRAN	11,691	6,004	8,350	16,356	13,618	9,750
Seattle Center	4,277	3,810	5,478	0	0	58,915
SPU	4,753	2,579	3,961	5,367	1,190,980	800
TOTAL	52,224	48,771	48,456	357,697	1,663,201	146,046

As shown in the above chart, overall operational hazardous waste generation has remained steady from 1998 to 2000, but some notable changes did occur by department. Some of the increases shown were due to the disposal of unused materials discovered during facility audits. The increased generation of operational waste at Parks was primarily due to the removal of out-of-date, unused materials from its inventory. Parks is evaluating its purchasing, use, and storage practices to find opportunities to prevent overstocking and storage of unused products.

Complying with Regulations

Violations and Compliance

While regulatory compliance is not a direct indicator of environmental impact, it is an important City value. Indicators of the level of compliance include the number of:

- **Violations:** citations from regulatory agencies
- **Self-reported non-compliance:** non-compliance incidents self-reported by the City, as required by law
- **Releases to the environment:** incidents reported to a regulatory agency, as required by law, that were not non-compliant
- **Fines and mitigation:** costs of fines or other mitigation actions required by a regulatory agency

Of the 60 events, 43 were caused by blockages which were cleared (39 were caused by a chronic blocking problem at one location). Seventeen were corrected by structural improvements to the system. Since corrective actions were implemented at these CSO locations, no additional dry weather overflows occurred during 2000.

SCL had seven incidents of self-reported non-compliance due to five exceedences of wastewater treatment system National Pollutant Discharge Elimination System permit limits and two releases of transil oil to water. The eight releases to the environment at SCL were due to a combination of transil oil and hydraulic oil releases.

Any incidents of violations, non-compliance, and releases to the environment by City departments exceeds the

	Regulatory Indicators By Department											
	Regulatory Violations			Self-Reported Non-Compliance			Releases to the Environment			Fines and Mitigation		
	1998	1999	2000	1998	1999	2000	1998	1999	2000	1998	1999	2000
Fleets & Facilities	0	6	0	0	0	0	0	0	3	0	\$ 700	0
Parks	0	0	0	0	4	0	0	4	0	0	0	0
Police	0	0	0	0	0	0	0	0	0	0	0	0
SCL	1	0	0	1	5	7	1	1	8	\$ 2,000	0	0
SEATRAN	0	0	2	0	0	0	0	0	0	0	0	0
Seattle Center	0	0	0	0	0	0	0	0	0	0	0	0
SPU	0	4	1	9	5	62	0	3	0	\$ 200,000		0
TOTAL	1	10	3	10	14	69	1	8	11	\$ 2,000	\$ 200,700	0

The target for each of these indicators is zero. The chart above shows how each of seven departments performed against this target over the past three years.

The most notable increase in incidents — 60 dry weather overflows at Seattle Public Utilities combined sewer outfalls — is attributable to monitoring devices being installed at 41 combined sewer overflow (CSO) locations. With the installation of these monitors, all CSOs are now monitored. The monitors have an alarm notification system which allows SPU to quickly implement corrective actions.

target of zero. In 2000, violations and fines/mitigation both decreased while incidents of self-reported non-compliance and releases to the environment increased. No pattern of incidents in a particular regulatory area emerges from the data.

Clearly, there is still room for improvement. The auditing program helps to identify areas of concern before regulatory compliance incidents occur.

Compliance Auditing Program

The EMP lists two other indicators of regulatory compliance aimed at preventing non-compliance:

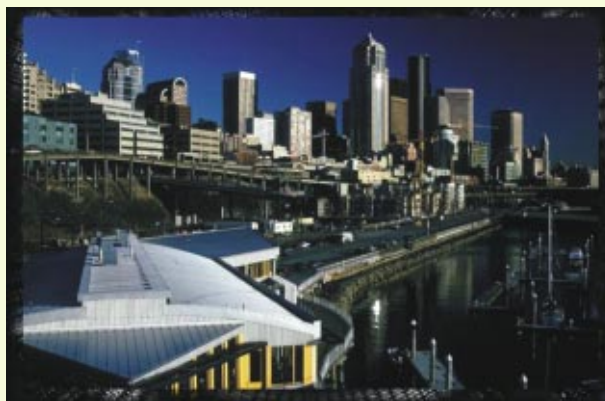
- Site visits: every year expert staff survey facilities and operations regulated by environmental laws to assess compliance, identify risks, and recommend improvements
- Compliance audits: every two years auditors evaluate compliance at complex City facilities that cover several operations and/or are subject to multiple regulatory requirements. Corrective action plans are prepared to address audit findings.

The City's auditing program began in 2000. More than half (18) of the City's 33 complex facilities received audits, which identified 192 findings for corrective action. Of these, the 45 findings scheduled to be corrected by the end of 2000 were corrected on schedule. City departments are ahead of schedule in correcting the remaining findings.

Now that we have some experience with the City-wide auditing program, we will be assessing what did and did not work and ways to improve the program. Additionally, we will be developing methods to determine if problems are occurring in particular program areas or environmental media.

I'm often asked to define the business case for sustainability. How about, for starters: survival? Without sustainability, our descendents will watch society disintegrate and markets evaporate before our eyes. We cannot live without the life support systems of the biosphere any more than the other species can, and we continue to over-stress those systems. The stress must stop for society, much less business, to survive.

Ray Anderson, CEO of Interface, Inc.



www.cityofseattle.net/environment

Moving Toward Sustainability

Our Evolving Environmental Management Program

The City-wide Environmental Management Program provides an overarching framework for reducing the environmental impacts of City operations. Departmental Environmental Management Systems are the second tier of this management structure. Individual City departments more thoroughly review the environmental aspects and legal requirements specific to their operations and develop programs to improve their environmental performance.

In 2001, SEATLAN, Parks, SCL and SPU began to develop and implement departmental Environmental Management Systems. Cross-functional core teams are being formed and work is well underway. To assist the core teams, OSE is sponsoring an Environmental Management Systems quarterly training series. Additionally, core team leads from the different departments meet periodically to discuss lessons learned, strategies, and work products.



Improving Communication

More effective communication is one key to promoting more sustainable practices in City operations and in the community.

OSE significantly remodeled our web site to better promote the goals, mission and workprogram of OSE and to link together the sustainability work being done on a City-wide basis. We also developed a new closely linked web site called "Local Stories of Urban Sustainability." We feel that story-telling can be an effective way to communicate, both internally and externally, about sustainability. The featured stories highlight some wonderful projects that are simultaneously addressing economic, environmental, and social challenges.

To coincide with Earth Day we produced the brochure "Sustaining Seattle: Our Defining Challenge." This brochure introduced the Office of Sustainability and Environment, communicated the City's environmental accomplishments, presented sustainability in an urban context, and made the concept more accessible through examples.

Building Momentum

Our employees are the City's greatest resource for ideas and action that will shift the City toward more sustainable practices. OSE, recognizing the broad challenges of reaching 10,000 employees, began experimenting with an innovation diffusion model for promoting the concepts and practices of sustainability.

We invited a group of 'change agents' to participate in a series of presentations and discussions, the beginning of a diverse network throughout City government. We hosted three events in 2001, featuring national and regional voices on sustainability issues, including Paul Hawken, Bill McKibben, and Alan Durning. Each event attracted between 35 and 90 people.

A summary of the City's 2000 environmental performance is provided below. Note that this chart only addresses those indicators with established targets for 2000.

EMP Environmental Performance Indicators 2000

Environmental Objectives & Indicators		Targets	Results		
Reduce Resource Consumption		1998	1999	2000	
Building Energy Use (kWh)	Decrease in 23 representative buildings	7,106 mWh (1995-99 avg.)	6,853 mWh (2000)	Down 4%	
	Decrease in Key Tower	14,052 mWh (1997-99 avg.)	16,457 mWh (2000)	Up 17%	
Fleet Fuel Use (Gallons)	Decrease by 5% by 2005	2,339,530	2,333,877	2,330,034	
Environmentally Preferable Purchasing:					
Recycled Content Products	Increase	\$2,256,839	\$2,143,446	\$2,036,488	
Copy Paper Reams	Decrease	138,403	157,633	194,143	
Reduce Pollution at the Source		1998	1999	2000	
Pesticide Use (pounds of active ingredient)	Eliminate most potentially hazardous insecticides and herbicides by 6/00		No target set	Target met	
	30% reduction over baseline by 12/02		No target set	46% reduction	
Baseline = 1,168 lbs., the annual average used from 1995-99					
Hazardous Waste Generation – (pounds)	Decrease	52,224	48,771	48,456	
Comply with Regulations		1998	1999	2000	
Violations	0/yr	1	10	3	
Self-reported non-compliance incidents	0/yr	10	14	69	
Releases to the environment	0/yr	1	8	11	
Fines/mitigation	0/yr	\$ 2,000	\$ 200,700	None	
Site Visits	Visit 50% of buildings/year	Target Met	Target Met	Target Met	
Compliance Audits	Audit each complex facility every three years	Program not in place	Program not in place	On Schedule	
	Complete corrective actions on schedule	Program not in place	Program not in place	Target Met	

The Challenges Ahead

This report shows the City has made good strides toward sustainability, and also learned some valuable lessons. It is clear there is still much progress to be made. In the coming months, OSE will be revising its strategy and developing its work program for 2002 and beyond, working closely with elected officials, City departments, and the City's Environmental Management Oversight Panel. We'll be asking these questions:

- How can we best build on our success and our strengths?
- What are the ripest and most urgent opportunities for further action?
- What are the City's most potent and cost-effective leverage points for creating a more sustainable Seattle?

Our current ideas on next steps are summarized below. This list includes both actions the Mayor and City Council have already directed us to take, and our own ideas, based on experience, lessons learned, and feedback received during the last few years from elected officials, colleagues, partners, and advisors.

- **Conduct a comprehensive management review of the City's Environmental Management Program (EMP).**

A periodic review of the

Environmental Management Program is required in the 1999 City Council Resolution adopting the program. In 2002, OSE will work closely with all appropriate City departments to conduct a comprehensive review of the EMP, culminating in recommendations for improvements and adaptations to the Mayor and City Council.



- **Develop and implement a Climate Protection Program.** In 2002, we will complete our inventory of greenhouse gas emissions, and develop a draft Climate Protection Plan for the Mayor and City Council to consider. This Plan will include a recommended greenhouse gas emission reduction target for the City of seven to 40 percent below 1990 levels, and recommended actions for meeting that target over time.
- **Complete the Green Fleet Plan.** With the development of the Clean Diesel Program the City made great progress toward sustainable fleet management in 2001. In 2002, we will complete our Green Fleet Plan, which will clarify the City's policy priorities, establish sustainability targets for the City's fleet, and identify additional opportunities to reduce fuel consumption, air pollution, and greenhouse gas emissions.
- **Strengthen the Environmentally Preferable Purchasing Program.** The City's buying power is one of its strongest leverage points for practicing and promoting sustainability. The City has taken great strides toward a comprehensive sustainable purchasing program, thanks in large part to the pioneering efforts of SPU, the Finance Department's Purchasing Division and other departments participating in the *Copernicus Program*. In 2002, OSE will work with these departments to strengthen the program, including clarifying (and revising, if necessary) policies and targets, developing standards, and improving communications and reporting mechanisms.
- **Develop and implement the next phase of the Chemical Use Reduction Program.** The City's Pesticide Use Reduction Program has exceeded expectations and established targets. It's time now

to turn attention to the next phase of the program, and to another group of hazardous chemicals. In 2002, based on the results of a recent inventory and analysis conducted by the state Department of Ecology, OSE will lead an effort to identify an additional group of hazardous chemicals used by City departments, and will develop and begin implementation of an aggressive, systematic, targeted reduction program. The goal is to replicate the success of the Pesticide Reduction Program, resulting in increased employee health and safety and reduce environmental risks and costs associated with the use, disposal, and management of hazardous chemicals.

Ecology teaches us that there are no environmental solutions to environmental problems, except over geological time scales. There are only economic, social and political solutions because the causes of environmental degradation are economic, social and political by nature.

*Charles Secrett,
Friends of the Earth*

- **Develop and begin implementation of a “communicating sustainability” strategy.** We must find ways to communicate about sustainability that are clear, compelling, resonant, and inspiring. We need to find words, pictures, and examples that help City employees – regardless of where in City government they work – understand the principles of sustainability, and how to apply them in doing their jobs. Building on our 2000/1 progress, OSE will develop and begin implementing an aggressive communications strategy for the Office and the City. This will include an assessment of existing perceptions by City employees to help OSE develop new, more effective messages and to identify the most promising mechanisms for delivering those messages.
- **Strengthen our “diffusing sustainability” program.**



To fully realize its enormous potential as a catalyst for sustainability (both inside and outside of City government), sustainability must become an ethic that is deeply embedded in City plans and actions. It must become a “standard operating procedure” for City government. Part of OSE’s strategy is to treat sustainability as an innovation – a new idea – and to incorporate into our approach state-of-the-art thinking on how new ideas are successfully diffused in a large, complex organization and culture such as our own. In 2002, OSE will build on and enhance the “innovation diffusion” work we began in 2001.

*We welcome your comments on
these ideas, and your own
suggestions.*

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City Council
Council President Margaret Pageler
Councilmember Jim Compton
Councilmember Richard Conlin
Councilmember Jan Drago
Councilmember Nick Licata
Councilmember Judy Nicastro
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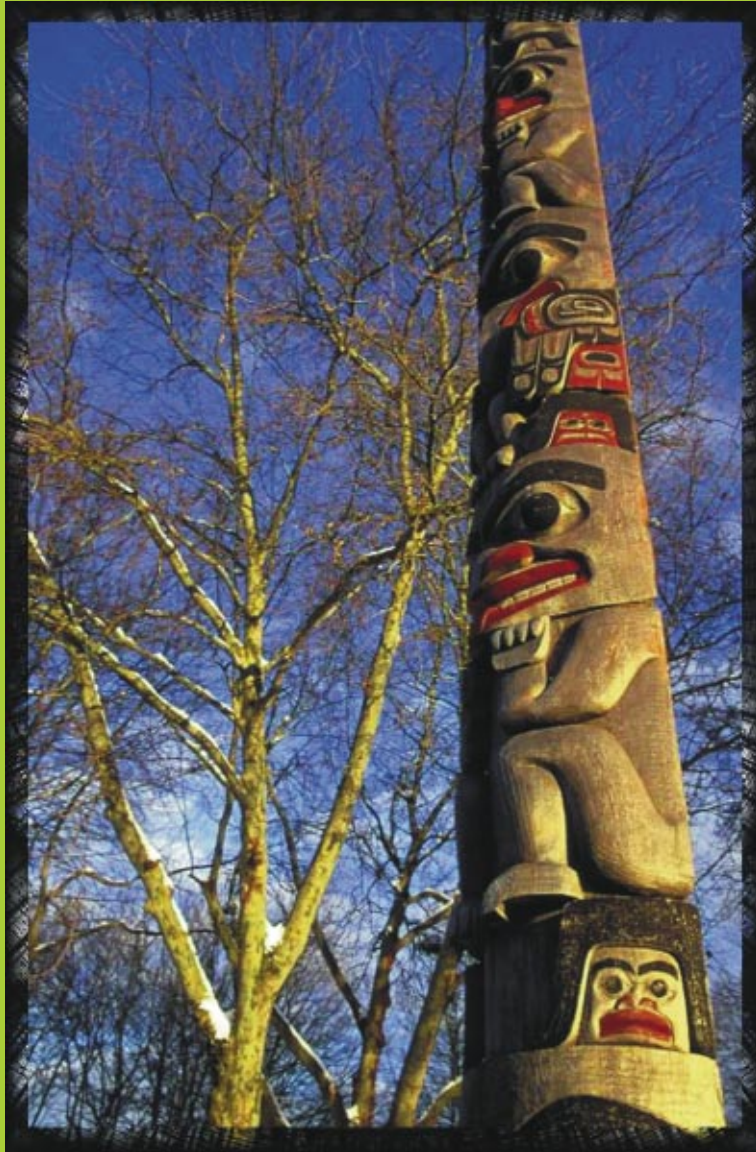
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